

Data Center Zoning Regulations

As recommended by the Planning Commission on June 10, 2026

HUDZ Presentation | Tuesday, June 23, 2026

City of St. Louis Planning & Urban Design Agency



CITY OF ST. LOUIS
PLANNING
URBAN DESIGN
AGENCY

Overview of the Planning Commission's Process

February 11

PC Meeting

Initial framework presented

Extensive public testimony

Accepted written comment

May 11

Webinar

Representatives from several City departments presented research and findings on key issues (e.g., water, noise, types of data centers, etc.)

May 18

PC Meeting

Updated framework presented

Extensive public testimony

Accepted written comment

June 10

PC Meeting

Final changes & refinements

Brief testimony

Discussed, voted on amendments, advanced to BOA



What staff research included

- **Interviews with subject matter experts** and a variety of **stakeholders**
- Participation in **webinars & roundtables**
- **Review** of reports, articles & literature
- Review of **best zoning practices**
- **Visits** to existing data centers in the region
- A review of **precedent zoning regulations**
- **Conversations with other cities**
- **Interdepartmental** coordination & conversation



Overarching Themes

A growing part of our landscape

Data centers are part of our evolving economy and technological landscape, have potential to support innovation and growth, and to provide revenue for municipalities

Environmental impacts, utility challenges, and other concerns

There are many important concerns about data centers' environmental impact, impact on place, and impact on electricity bills. There is broad-based concern about AI and its impact on employment, wealth inequality, and education.

Complex and changing fast

Data centers and the surrounding industry are exceedingly complex and rapidly evolving. Many cities are actively engaged in efforts to develop or refine their own regulations, many with pauses. An iterative approach will be needed.

Unknowns & uncertainties

There are many unknowns in the data center and AI industries and their future.



Zoning Precedent Research Takeaways

Everyone is grappling with this.

So far, most cities' regulations are not as comprehensive as those in rural or exurban places.

Most common concerns

- Noise, vibrations, and light
- Intensive utility usage
- Maintaining vibrant walkable urban spaces.

By-right allowance

- Most cities allow data centers by right in at least one zoning district

Things are evolving VERY rapidly.

There is precedent to:

- require disclosure of expected utility usage
- limit noise
- activate the ground floor or include a data center in a mixed-use development
- use renewable energy
- ban cooling systems that use an exorbitant amount of water
- requiring visual and/or acoustic buffering
- require CBAs or other agreements



Operating within the legal constraints of zoning

“89.040. Purpose of regulations. Such regulations shall be made in accordance with a comprehensive plan and designed to lessen congestion in the streets; to secure safety from fire, panic and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to preserve features of historical significance; to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements. Such regulations shall be made with reasonable consideration, among other things, to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the values of buildings and **encouraging the most appropriate use of land throughout such municipality.**”



Zoning Policy Components

1. New Chapter
2. Purpose
3. Definitions
4. Use Table
5. Application Requirements
6. Site Requirements, Design Requirements & Standard Conditions
7. Applicability
8. Application Review Process
9. Deadline for Review & Revision



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Definitions Overview

1. Backup Generators
 2. Baseline Noise Level
 3. Cool Roof
 4. Data Center
 5. Data Center, Major
 6. Data Center, Micro
 7. Data Center, Standard
 8. District Energy System
 9. Green Roof
 10. Local Renewable Energy Credits (RECs)
 11. Public Impact Agreement
 12. Renewable Energy
 13. Server Room
 14. Transit Center
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Data Center Classifications

MICRO < **10,000 sf** and **5 MW**

STANDARD > **10,000 sf** or **5 MW**
 < **30 MW** and **250,000 sf**

MAJOR > **250,000 sf** or **5 MW**
 < **500,000 sf**



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Use Table Comparison

	A - E	F	G	H	I	J	K	L
Micro	NA	NA	NA	C	C	C	C	C
Standard	NA	NA	NA	NA	C	C	C	NA
Major	NA	NA	NA	NA	NA	NA	C	NA

- Allow small facilities Downtown, in large commercial nodes, and industrial areas
- Allow medium facilities Downtown and in industrial areas
- Limit large facilities only to the most intensive industrial districts



Use Table Comparison

	A - E	F	G	H	I	J	K	L	
Pre EO 92	NA	C	C	C	P	P	P	P	 “warehousing / office”
With EO 92	NA	C	C	C	C	C	C	C	 interim approach
Micro	NA	NA	NA	C	C	C	C	C	 proposed approach
Standard	NA	NA	NA	NA	C	C	C	NA	
Major	NA	NA	NA	NA	NA	NA	C	NA	



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Application Requirements

1. For all Data Centers

Comprehensive project information, including information about their agreements with Ameren and plans for meeting renewable energy requirements

2. For Standard & Major Data Centers

More information about the project's timeline, environmental sustainability, and potential impact on the surrounding area

3. For Major Data Centers

- Extensive information about the project's end users, financing, environmental and economic impact, plans for decommissioning, and more
- Community engagement requirements



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Site Reqs, Design Reqs & Standard Conditions

Location Requirements	
Area Standards	
Noise & Vibration Controls	
Building Systems & Equipment Design & Screening	
Site & Urban Design Standards	
Water Responsibility	
Backup Power Systems	
Environment, Energy & Infrastructure Standards	
Reporting Requirements for Standard & Major Data Centers	
Public Impact Agreement - Major Data Centers	



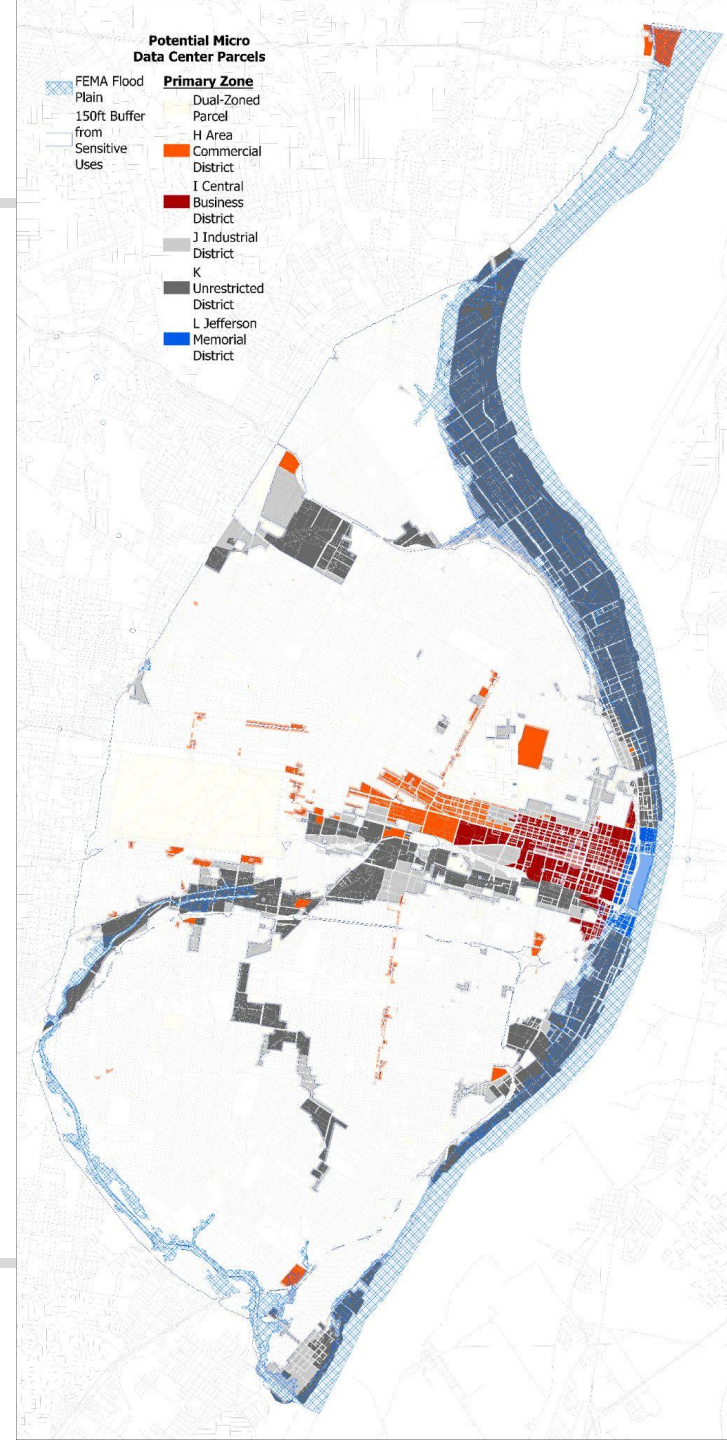
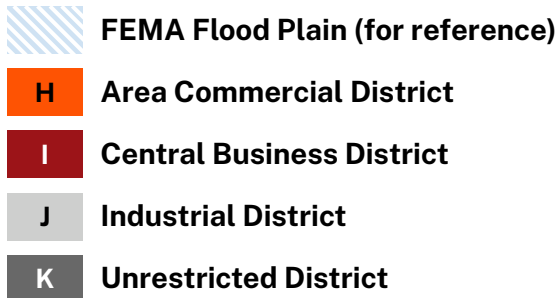
Site Reqs, Design Reqs & Standard Conditions

Location Requirements	Tailored setbacks from residential areas & transit stations (150, 300, 600 ft)



Micro Location Map

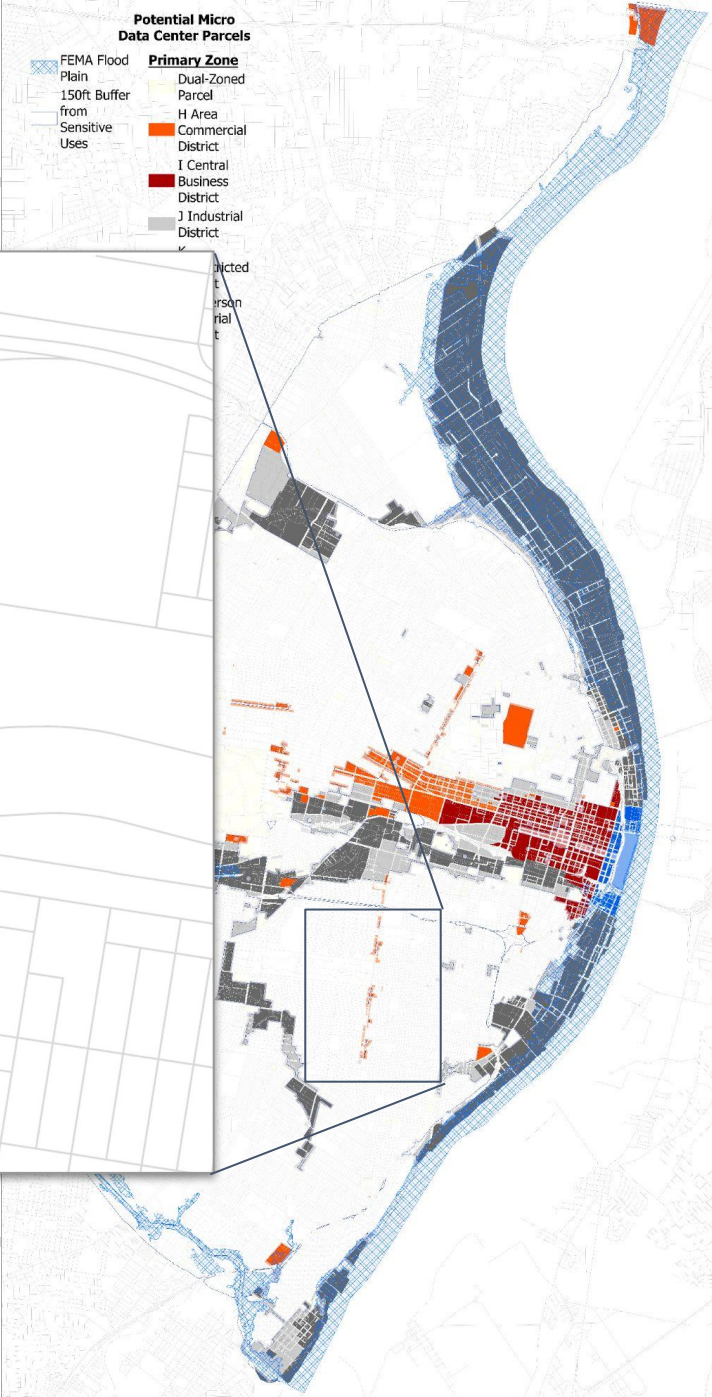
The map shows parcels or portions thereof which fall outside of the **150 foot buffer** from parcels zoned A-G, parks, transit stations, and schools.



Micro Location Map

The map shows parcels or portions thereof which fall outside of a 150-foot buffer from parcels zoned for parks, transit stations, and

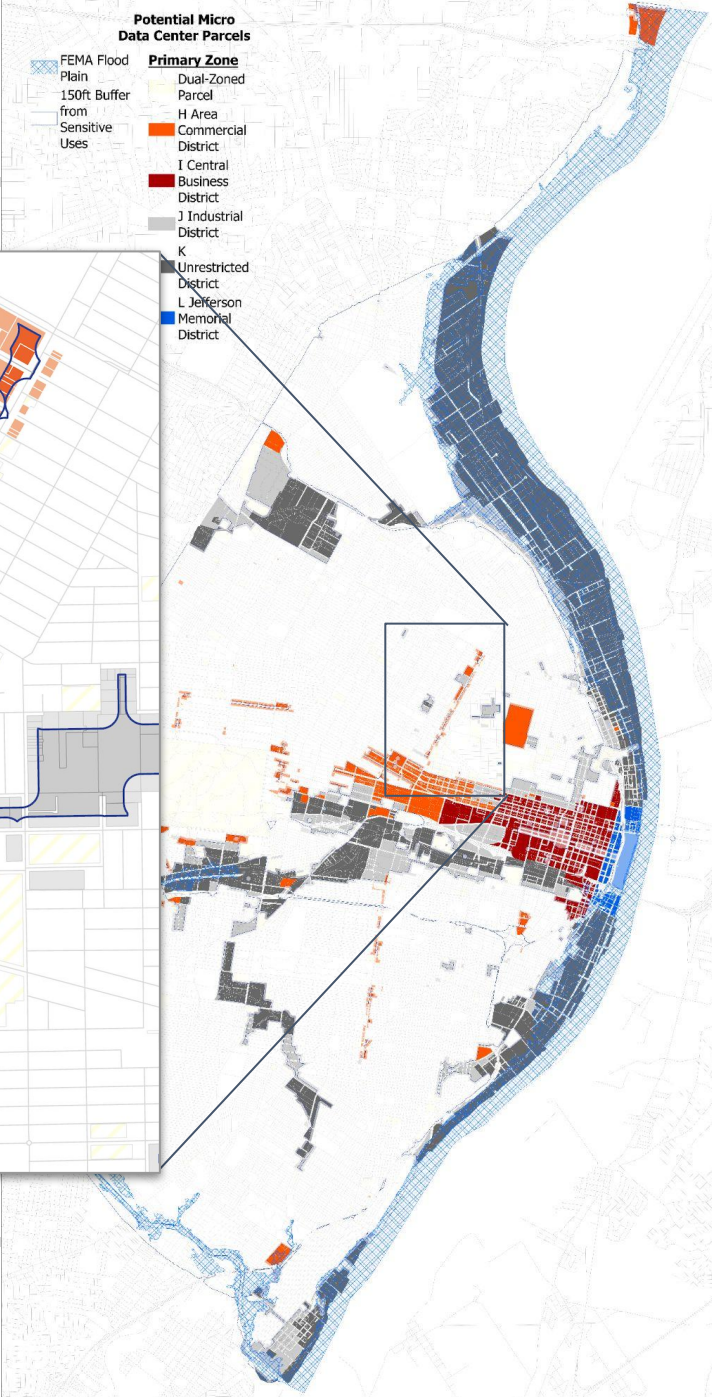
- FEMA Flood Plain (for reference)
- H Area Commercial District
- I Central Business District
- J Industrial District
- K Unrestricted District



Micro Location Map

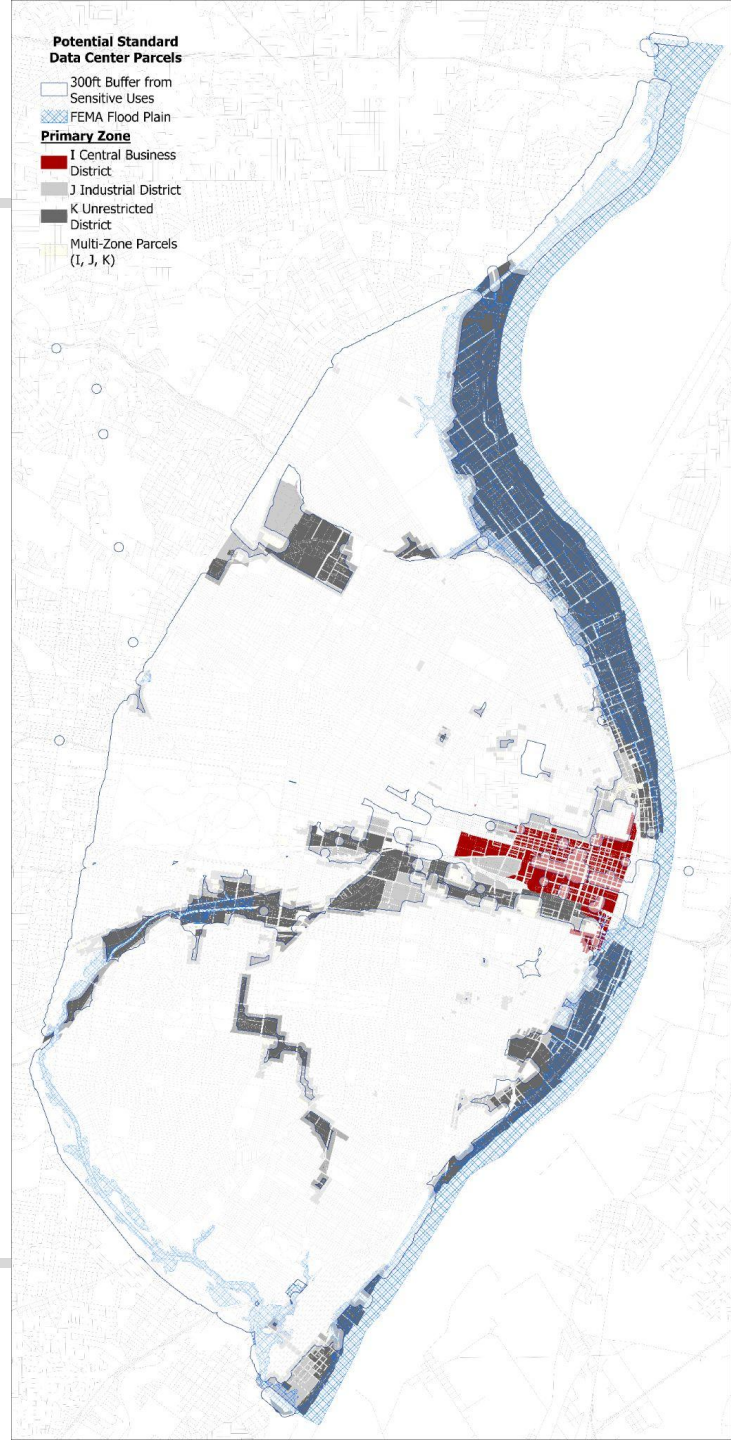
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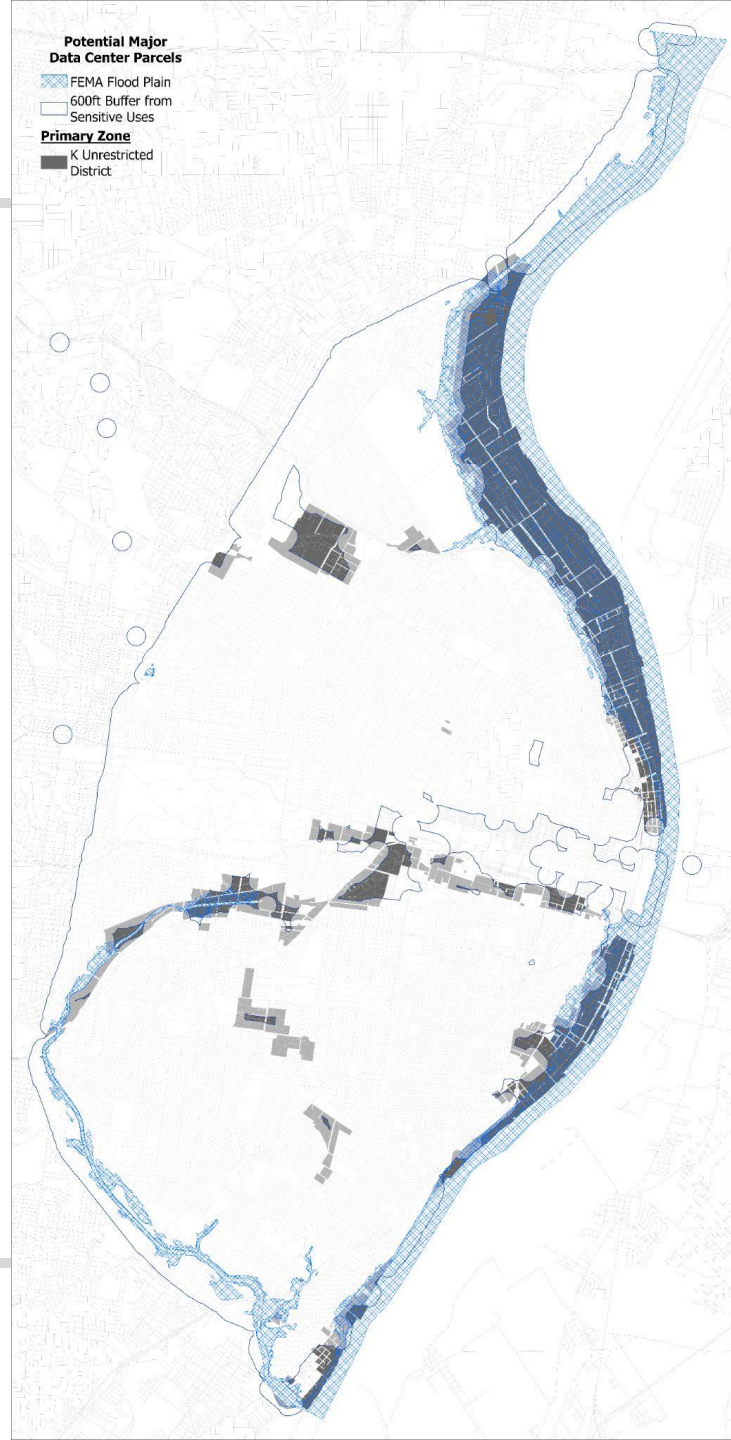
Standard Location Map

The map shows parcels or portions thereof which fall outside of the **300 foot buffer** from parcels zoned A-G, parks, transit stations, and schools.



Major Location Map

The map shows parcels or portions thereof which fall outside of the **600 foot buffer** from parcels zoned A-G, parks, transit stations, and schools.



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Area Standards	Address height & parking, avoid proliferation in Downtown areas, require ground-floor activation in Downtown areas



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Building Systems & Equipment Design & Screening	Basic green building requirements to mitigate urban heat, address on-site fuel storage, address other visual clutter



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Water Responsibility	Ban sole evaporative cooling, pay full share of impact on water infrastructure



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Applicability

Explicitly address applicability of regulations for:

1. New Facilities
2. Expansions
3. Existing Nonconforming Uses and/or Structures *
4. Existing Facilities & Previously Approved Facilities

* Approach under review



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Appendix

About Data Centers & their Emergence

Facilities that store data and provide compute power / infrastructure for:

- cloud computing
- artificial intelligence
- other data-intensive functions

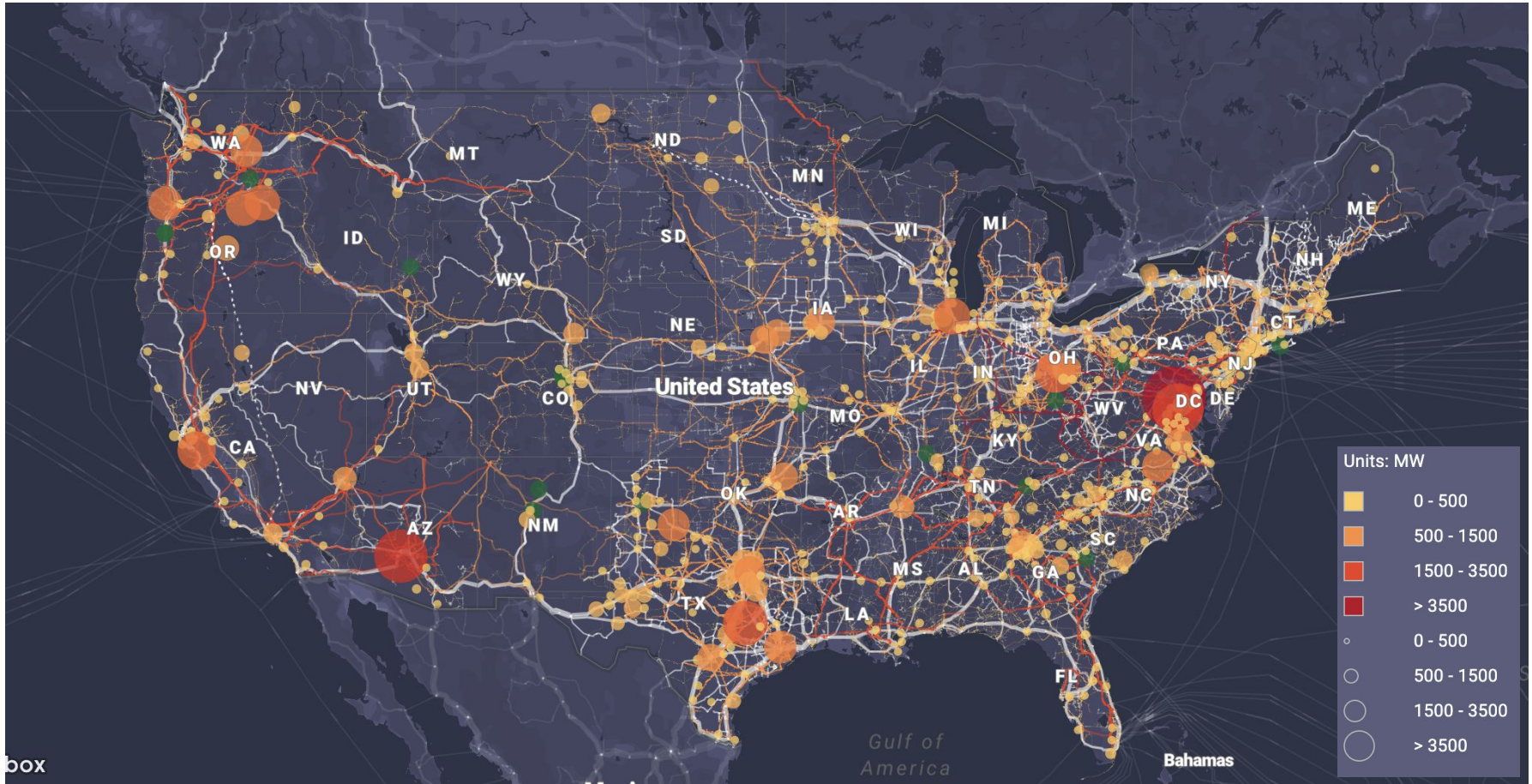
Global AI boom is fueling rapid data center development (and associated infrastructure)

Estimated \$7 trillion investment globally by 2030 (McKinsey)

Operate with a variety of models



Data Center Capacity in Operation

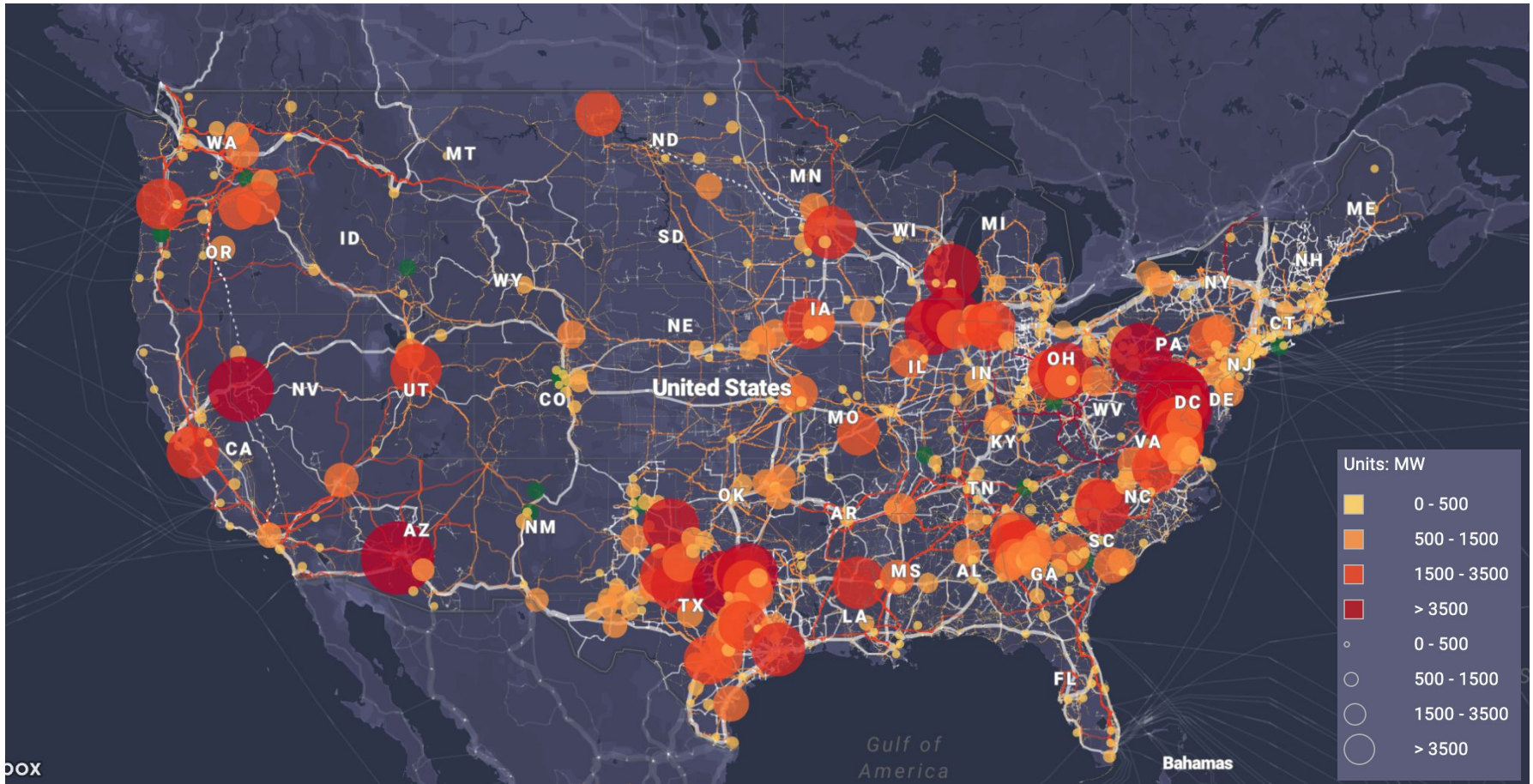


Source: National Renewable Energy Laboratory ("National Laboratory of the Rockies")
Accelerating Speed to Power



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Total (Operating, Under Construction, and Planned)



Source: National Renewable Energy Laboratory ("National Laboratory of the Rockies")
Accelerating Speed to Power



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The Role of Zoning

1. Define different types of data centers
 2. Regulate where they can (and can't) go
 3. Establish minimum standards
 4. Collecting information and considering specific proposals
 5. Require other agreements (but not detail the content of them)
-

What zoning can't do:

- Regulate electric utilities (State of MO, Public Service Commission)
 - Determine Ameren's energy mix (Ameren's Integrated Resource Plan)
 - Regulate fees for water service (Water Division)
 - Regulate business activities within the same land use
-

Key Themes & Findings

1. Energy & water use
2. Access to electricity
3. Variety of types & scales
4. Urban vitality
5. Impacts on surrounding area
6. Transparency & uncertainty
7. Fiscal & economic impacts



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Energy and Water Intensity

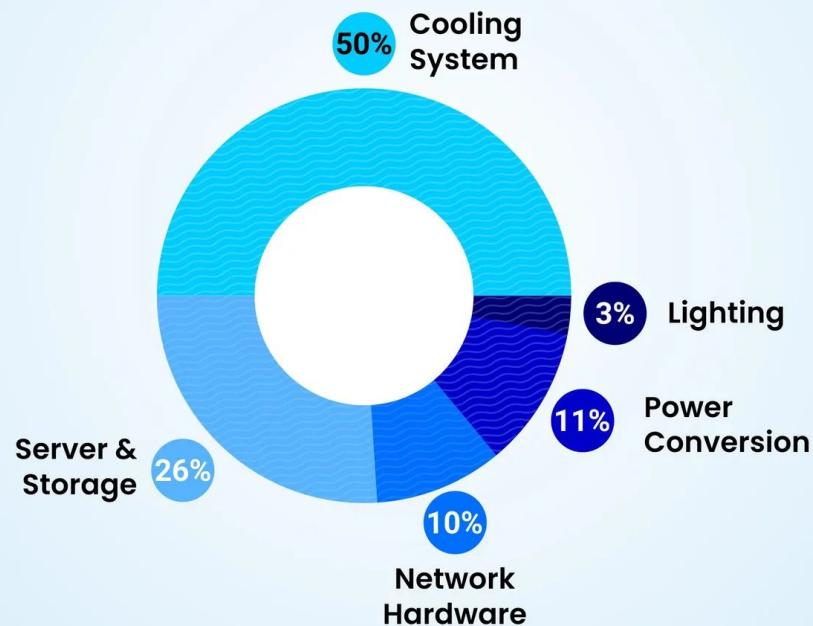
Data centers use enormous amounts of energy for both servers and cooling needs

Some creative projects use waste heat to meet other needs

The energy intensity is incredibly high compared to other use types and is rapidly changing

Servers in data centers have become more powerful over time, increasing energy density

A Breakdown of Energy Consumption by Different Components of a Data Center



Source - ieeexplore.ieee.org

Stratview[®]
Research
Strategic Insights Delivered



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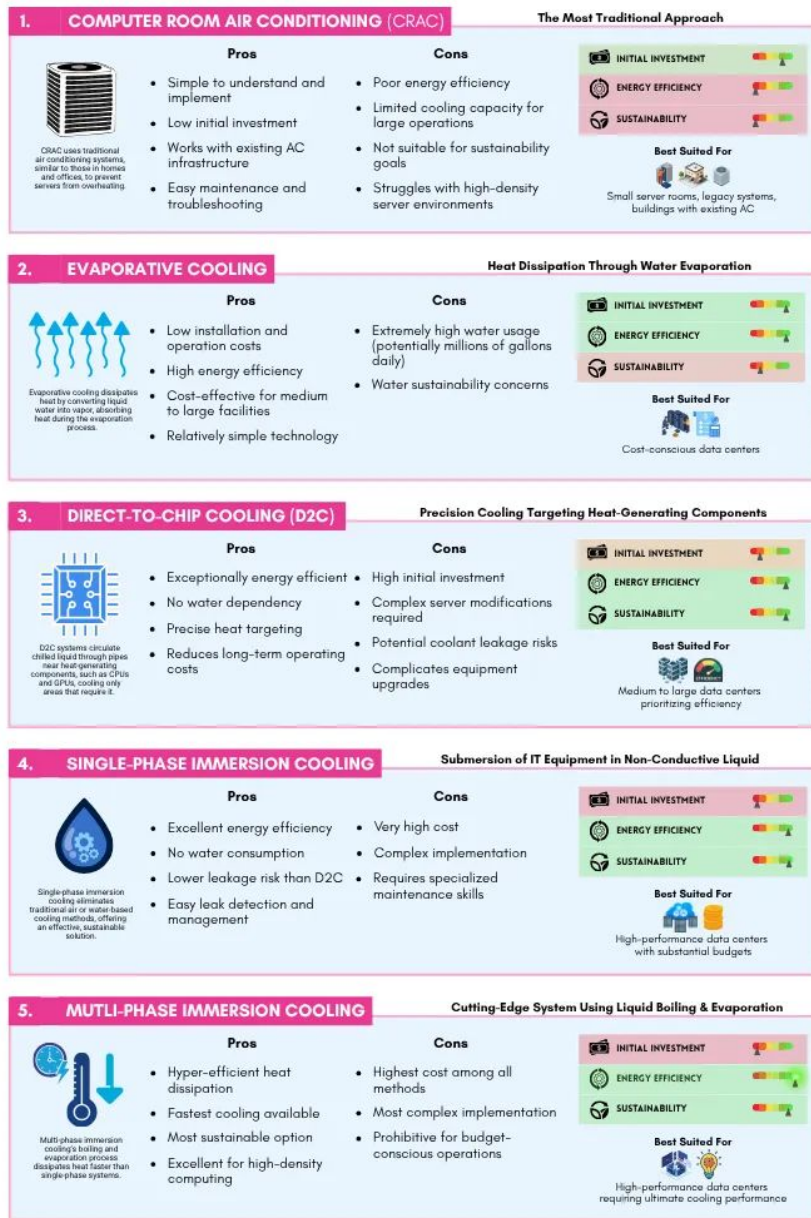
Variety of Cooling Systems

Water use varies by cooling system

Intensive water can be a huge problem (e.g., when using groundwater in an agricultural area).

There are tradeoffs between energy efficiency, water efficiency, and initial investment

Water outputs need to be treated adequately, and would be subject to MSD's requirements



The City's Water Infrastructure

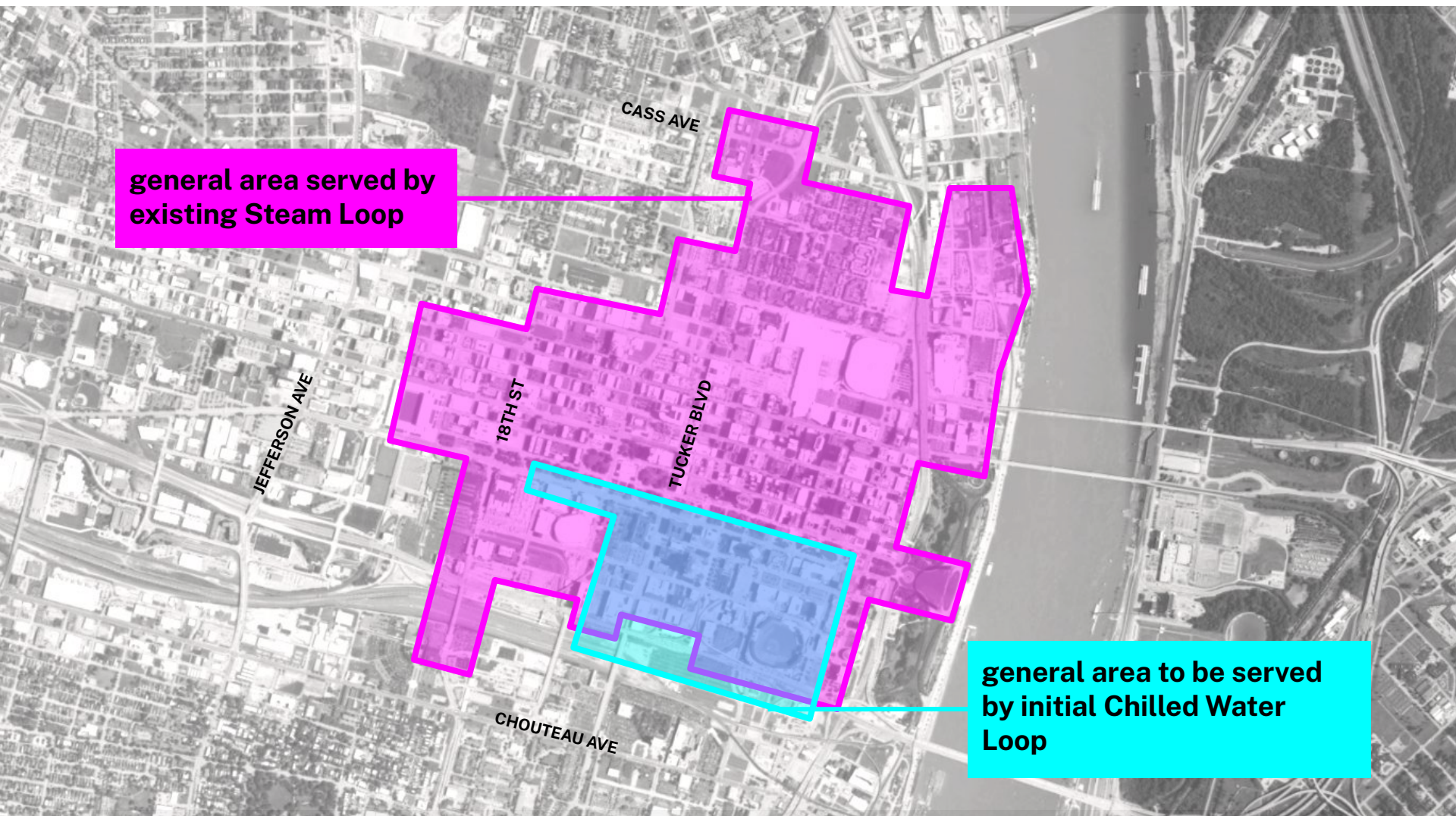
The City's Water Division actually has **more than enough capacity** to bring on new, large water users.

Over the years, the Water Division's rate base has declined significantly due to **significant loss of population.**

Broadening and expanding our water utility's rate base will help stabilize our City's water infrastructure into the future.



Location of Existing & Planned District Energy



Key Themes & Findings

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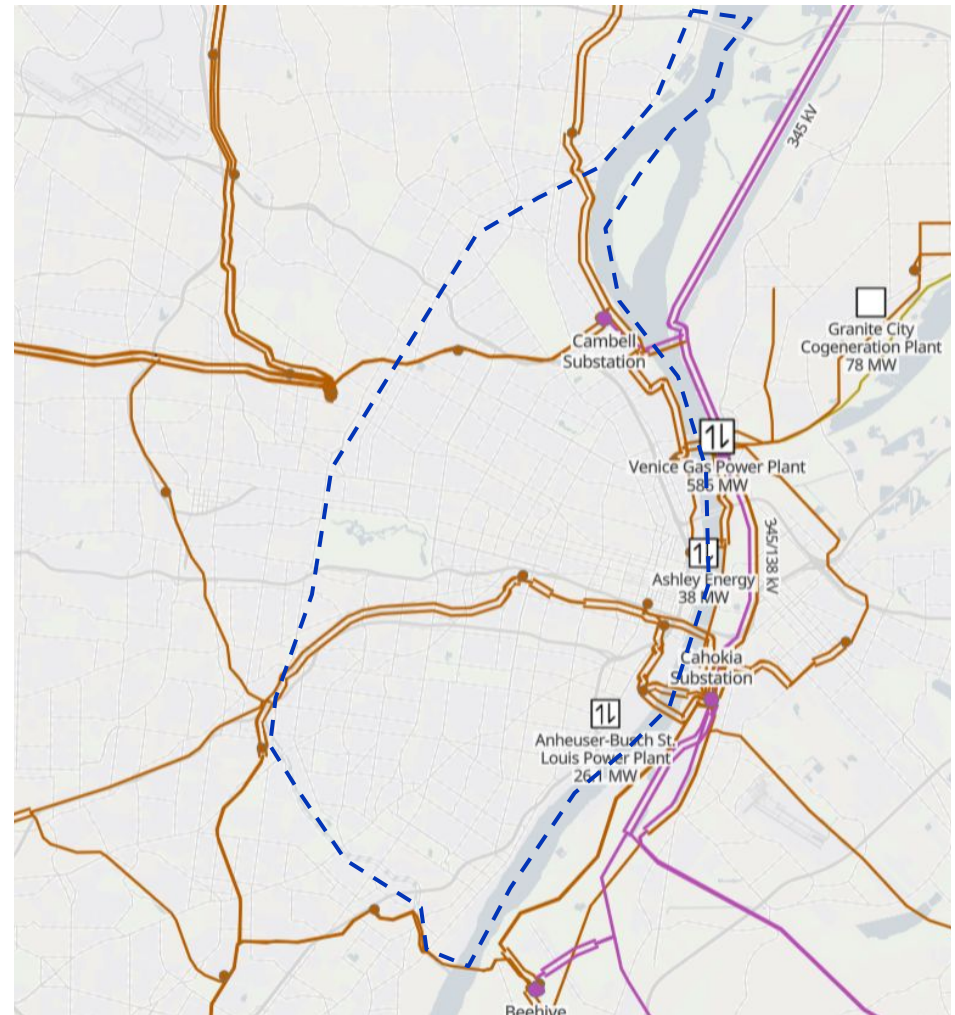


Power Infrastructure

Access to high-voltage utility infrastructure drives site selection for large data centers

In St. Louis, high-voltage utility lines run primarily through industrial areas and along old RR rights of way

These high-voltage lines generally correspond with historically industrial districts in the city, with Downtown being somewhat of an exception



Floodplains (should) inform site selection

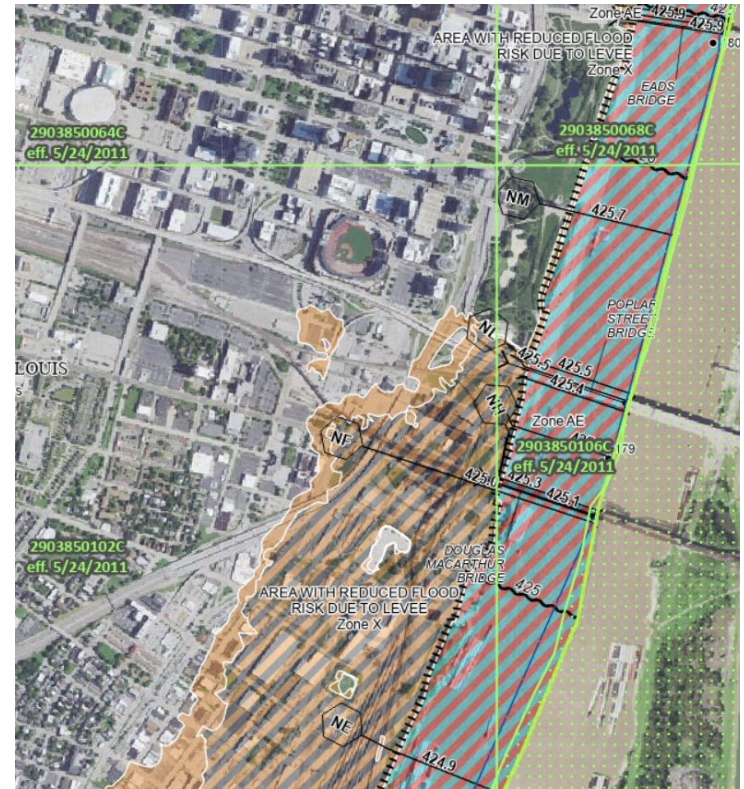
Floodplains are a risk factor for stable, continuous operation of a facility

Projects generally won't be located in a floodplain — seen as too much of a risk by lenders, insurers

Flooding of data center equipment may also pose an environmental risk

Mitigation of flood risk *may* be possible through raising equipment of flood elevations, and other efforts





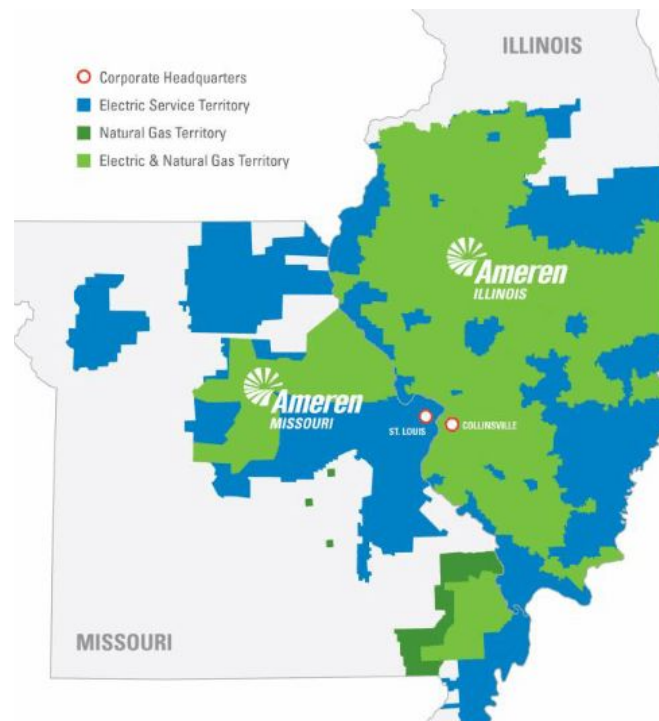
Ameren's Service Area

Extreme challenge for utilities to meet growing energy needs, including from data centers

New demand requires new power generation and transmission infrastructure

- transmission costs are borne by customer (i.e., developer)
- new energy generation costs may impact all ratepayers

Any new costs are shared by ratepayers across Ameren's entire territory.



Key Themes & Findings

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2. Access to electricity
- ▶ **3. Variety of types & scales**
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Lots of Types of Data Centers

Corporate / enterprise

Stores and processes a single organization's data

Telecom

Where traffic from cell towers “switches” to the internet.

Tend to be smaller than other types, require less energy

Colocation

Third-party operators lease data center space

Wholesale

A type of colocation data center where a third-party developer rents large portions of the space and data capacity to one company

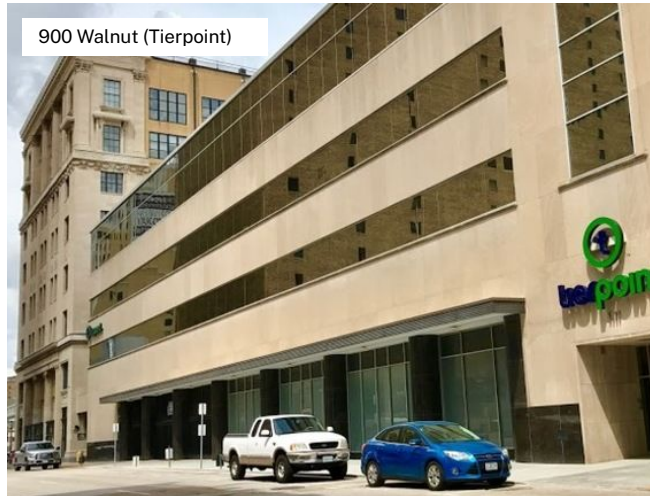
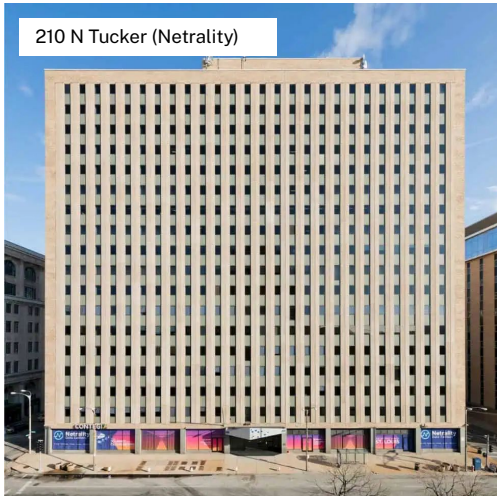
Hyperscale

Built for a single customer (e.g., Google, Amazon, Microsoft, Meta). Sometimes owned by the tech company, sometimes leased from a third-party developer.

Scale resources up or down with demand.

AI may be integrated into most functions. Generative AI is a distinct technology.

Variety in Existing Data Centers



Vast Hyperscale Campuses: Proposing to Ban in the City

Hyperscale Campus Example

New Albany, OH



Millions of square feet

Hundreds of acres

Hundreds of megawatts

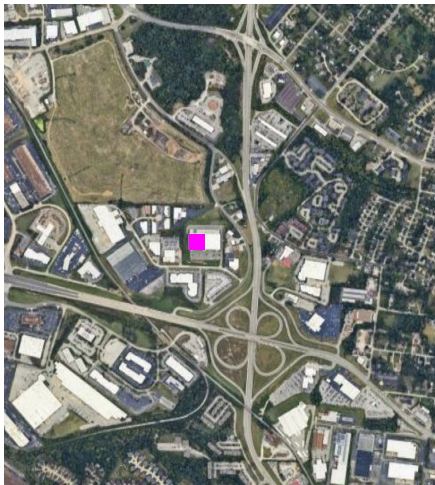
Proposed in rural and exurban environments

**This scale is not appropriate
(or possible) in the city**



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Vast Hyperscale Campuses: Proposing to Ban in the City

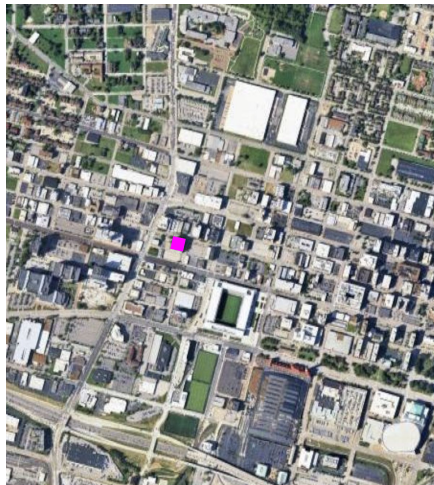


**Existing Facility in
Maryland Heights**

<5 MW



~13,000 sf



**Under Construction on
Locust Street**

up to 20 MW

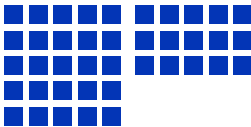


~130k sf

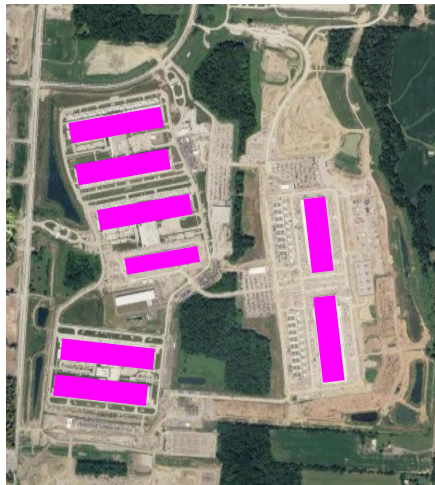
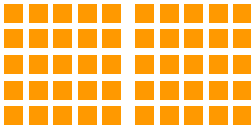


**Proposed in Famous-Barr
Warehouse**

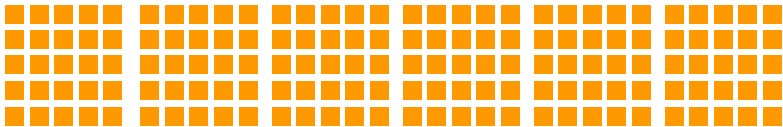
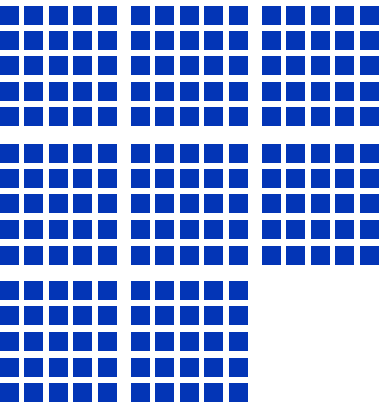
up to 120 MW



~500k sf

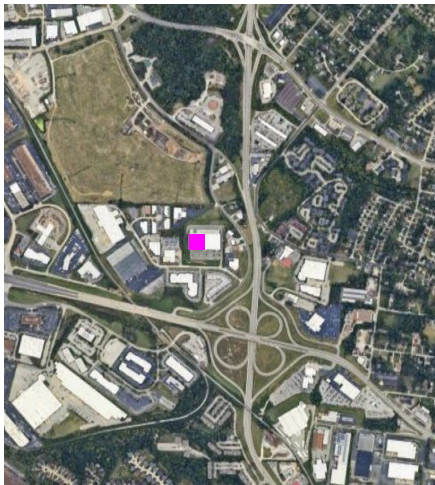


**Hyperscale campus
example
gigawatt +**



*aerials are to the same scale

Vast Hyperscale Campuses: Proposing to Ban in the City

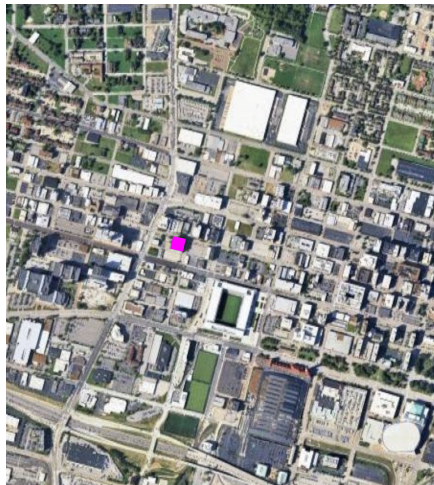


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**Under Construction on
Locust Street**

up to 20 MW

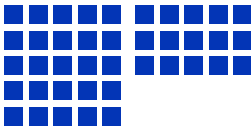


~130k sf

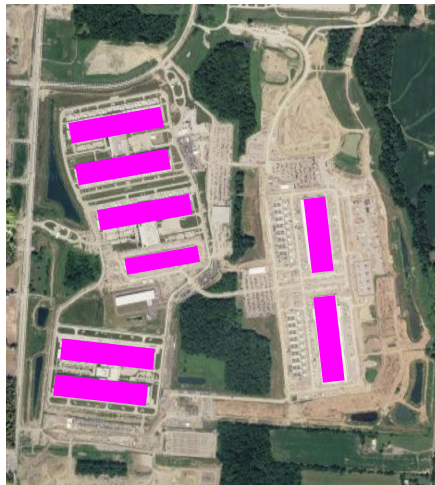
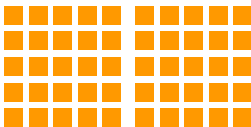


**Proposed in Famous-Barr
Warehouse**

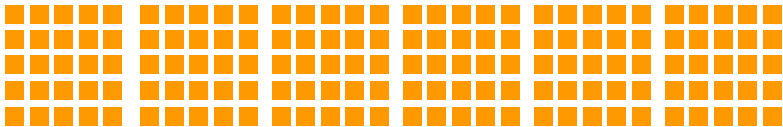
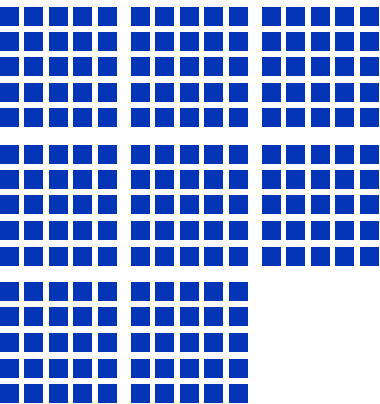
up to 120 MW



~500k sf



**Hyperscale campus
example
gigawatt +**



*aerials are to the same scale

Key Themes & Findings

1. Energy & water use
2. Access to electricity
3. Variety of types & scales
- ▶ **4. Urban vitality**
5. Impacts on surrounding area
6. Transparency & uncertainty
7. Fiscal & economic impacts

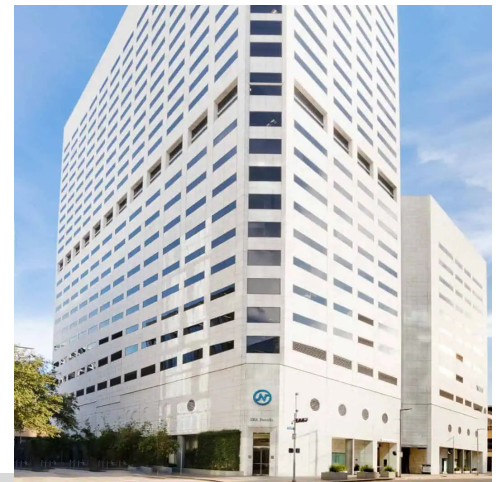
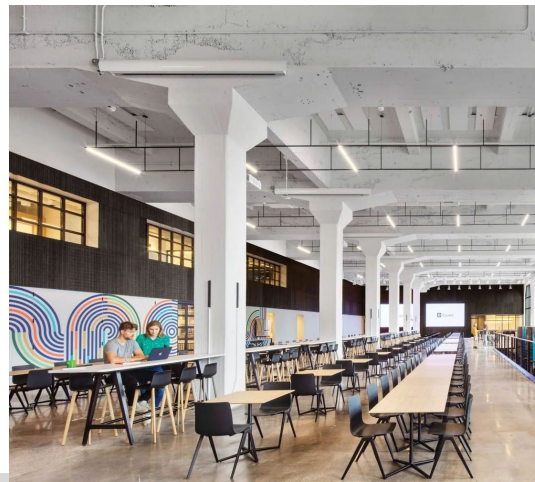


Theme 4: Urban Vitality

With few permanent employees and infrequent visits by customers, data centers are not a very “active” use

There are examples across the country (and in St. Louis) of **mixed-use data centers**. Some uses (e.g., restaurants) are harder to mix with a data center than others.

Data centers also represent infrastructure that could help attract and retain businesses Downtown and in the city.



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Impact on Surrounding Area

Data centers can emit significant noise, including low-frequency noise which is harmful for nearby residents

Backup generators can also create significant emissions and require regular testing (to ensure compliance with Clean Air Act requirements (administered by MO DNR))

Accessory equipment can also create visual clutter

New substations may also be required

Cities very commonly establish noise, screening, and buffering requirements



Backup Generators

Data centers use backup generators to operate consistently during a potential power outage

Backup generators can be very noisy, and can be significant polluters

They are also tested on a recurring basis to ensure compliance with Clean Air Act requirements (administered by MO DNR)



Dangers in On-Site Fossil Fuel Power Generation

Nightmare scenarios in other communities have involved data centers operating with unpermitted on-site generators as a primary power source, contributing to terrible air pollution, respiratory illness.

This is entirely preventable, and must be prevented in the City of St. Louis.



Key Themes & Findings

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7. Fiscal & economic impacts



Critical to get the Full Picture

Best practice publications emphasize that it is critical to capture the full picture of a proposal in order to understand both its challenges and benefits.

However, some important details may not be available:

- **End User:** Data center developers may actually not know who the end user might be at the time of their permit application.
- **Economic Impact:** It may be impossible to be certain of fiscal projections, actual energy use, job numbers, and many other important details until a user is known.



A lot of unknowns

There are many unknowns in the data center and AI industries and their future.

Many communities strive to achieve **up-front financial or other community benefits**, in part to mitigate against future risk.

In addition, many communities are concerned with the industry's lack of transparency, particularly around the needs associated with **operations**.

At the same time, participation in this evolving economy could bring benefits to the region. **These benefits could be lost through an overly restrictive approach.**



Key Themes & Findings

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6. Transparency & uncertainty
7. **Fiscal & economic impacts**



Fiscal & Economic Benefits are Significant

Fiscal benefits can be significant

- extensive capital investment (construction and equipment purchase/upgrades)
- real estate and personal property tax revenues are very high
- enormous benefit to schools, City needs

Many many construction jobs

- participation by many trades
- require frequent upgrades to systems and equipment, server replacement

Fewer permanent jobs

- however, permanent jobs are high-skill and high-paid



Infrastructure for Other Economic Growth

Data centers can strengthen other industries

- Compute-intensive functions are increasingly integrated into health care, advanced manufacturing, and other industries
- Proximate compute power mitigates latency.
- Potential to support existing local businesses and/or anchor new businesses

Increasing integration of AI into the economy is also expected to displace jobs, no matter where data centers are built.



Estimated Fiscal Benefits in St. Louis's Taxing Structure

Facility Size	Est. Total Capital Investment	Est. Year 1 Revenue	Est. Avg. Annual Revenue	Cumulative 10-year Impact
20	\$214m	\$8.71M	\$6.57M	\$67.3M
75	\$803m	\$32.66M	\$24.63	\$254.3M
150	\$1.605b	\$65.31M	\$49.26M	\$508.6M



Fiscal Impact (cont'd)

Building Permit Fee Rate	\$10 per \$1,000 valuation	
Real Property Share	25%	Building and Site Improvements
Personal Property Share	75%	Servers, cooling, electrical infrastructure
Commercial Assessment Ratio	32%	Missouri Statutory Rate
Personal Property Assessment Ratio	33.30%	Missouri Statutory Rate
Commercial Property Tax Rate	3.12%	St. Louis City taxing districts
Personal Property Tax Rate	2.27%	Current Levy Rates
Utility Tax Rate	10%	City Utility Gross Tax Receipts
Jobs per MW	0.5	Typical range -.3-.8
Average Wage	\$120,000	Data Center Operation Positions
Earnings Tax Rate	1%	City of St. Louis
Electricity Consumption	8,760 MWh per MW / yr	100% Utilization Assumption
Electricity Cost	\$70 per MWh	



Fiscal Impact (cont'd)

Tax Revenue Per Acre Comparison

Warehouse Distribution	\$50,000-\$75,000
Neighborhood Retail	\$50,000-\$125,000
Manufacturing Facility	\$100,000-\$250,000
20 MW Data Center	\$650,000
75 MW Data Center	\$800,000
150 MW Data Center	\$1,000,000

